

U.S. Application No. 09/601,126
Reply to Final Office Action of July 10, 2006

PATENT
450101-02198

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Currently Amended) An information providing apparatus for displaying information on a screen, based on various information data provided through a plurality of information sources, comprising:

means for obtaining first index information from a first information source of the plurality of information sources, wherein the first index information includes representative information indicating scene changes in the information data provided through the first information source;

means for obtaining second index information from a second information source of the plurality of information sources;

means for displaying a categorized menu on the screen based on the obtained first and second index information; and

means for obtaining necessary information from the first or second information source, in response to selection operation on the menu screen, and for displaying information based on the necessary information,

means for recording a history of programs watched and heard by a user, and controlling the display of information such that a favorite channel of the user is displayed to be selectable a priori in accordance with the history,

wherein the menu screen is arranged to display the information in a plurality of dimensions and levels such that a substantial portion of the necessary information

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can be seen and navigated on a minimum number of screens to enable relatively easy programming decisions and selections, and

wherein said plurality of dimensions and levels in the display are accessed as a function of the status of an operation key for displaying a program guide or search screen upon differing said plurality of dimensions and levels,

wherein the representative information indicating scene changes is captured and output to the first information source for recordal, and

wherein the representative information is recorded at the first information source prior to obtaining the first index information.

2. (Currently Amended) ~~An~~ The apparatus according to claim 1, wherein the necessary information is index information for displaying the categorized menu.

3. (Currently Amended) ~~An~~ The apparatus according to claim 1, wherein the first information source and the information providing apparatus are connected with each other through a network, such that the index information from the first information source is obtained through the network.

4. (Currently Amended) An information providing method for displaying information on a screen, based on various information data provided through a plurality of information sources, comprising:

obtaining first index information from a first information source of the plurality of information sources, wherein the first index information includes representative information indicating scene changes in the information data provided through the first information source;

obtaining second index information from a second information source of the plurality of information sources;

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displaying a categorized menu on the screen based on the obtained first and second index information; obtaining necessary information from the first or second information source, in response to selection operation on the menu screen; and

displaying information based on the necessary information;[[,]]

recording a history of programs watched and heard by a user, and controlling the display of information such that a favorite channel of the user is displayed to be selectable a priori in accordance with the history[[,]]:

~~wherein arranging the menu screen is arranged~~ to display the information in a plurality of dimensions and levels such that a substantial portion of the necessary information can be seen and navigated on a minimum number of screens; ~~to enable relatively easy programming decisions and selections, and~~

accessing said plurality of dimensions and levels as a function of the status of an operation key for displaying a program guide or search screen upon differing said plurality of dimensions and levels;

~~wherein capturing the representative information indicating scene changes is captured and output to the first information source for recording~~[[,]]; and

~~wherein recording the representative information is recorded~~ at the first information source prior to obtaining the first index information.

5. (Currently Amended) ~~A~~ The method according to claim 4, wherein the necessary information is index information for displaying the categorized menu.

6. (Currently Amended) ~~A~~ The method according to claim 4, wherein obtaining index information from the first information source is done through a network.

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7. (Currently Amended) ~~A~~The apparatus according to claim 1, wherein the minimum number of screens is one.

8. (Currently Amended) ~~A~~The method according to claim 4, wherein the minimum number of screens is one.

9. (Currently Amended) ~~A~~The apparatus according to claim 1, wherein the first index information includes a plurality of still images indicating scene changes in the information data provided through the first information source.

10. (Currently Amended) ~~A~~The apparatus according to claim 9, wherein said means for obtaining necessary information and for displaying information based on the necessary information includes:

means for displaying the plurality of still images in a temporal sequence so that relationships among the plurality of still images can be view in a time series.

11. (Currently Amended) ~~A~~The apparatus according to claim 10, wherein said means for displaying the plurality of still images includes:

means for arranging the plurality of still images in a spiral layout, where the plurality of still images is arranged in increasingly smaller sizes toward the center of the spiral layout.

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12. (Currently Amended) ~~A~~ The apparatus according to claim 11, further comprising:

means for controlling ~~and moving the~~ plurality of still images in the spiral layout, such that as more temporally current still images come into view on the outermost arm of the spiral layout, temporally older still images move spirally inward toward the center of the spiral layout.

13. (Currently Amended) ~~A~~ The method according to claim 4, wherein the first index information includes a plurality of still images indicating scene changes in the information data provided through the first information source.

14. (Currently Amended) ~~A~~ The method according to claim 13, wherein said displaying information based on the necessary information includes:
displaying the plurality of still images in a temporal sequence so that relationships among the plurality of still images can be view in a time series.

15. (Currently Amended) ~~A~~ The method according to claim 14, wherein said displaying the plurality of still images includes arranging the plurality of still images in a spiral layout.

16. (Currently Amended) ~~A~~ The method according to claim 15, wherein said arranging the plurality of still images includes:

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arranging the plurality of still images in increasingly smaller sizes toward the center of the spiral layout.

17. (Currently Amended) A The method according to claim 16, further comprising:

controlling ~~and moving~~ the plurality of still images in the spiral layout, such that as more temporally current still images come into view on the outermost arm of the spiral layout, temporally older still images move spirally inward toward the center of the spiral layout.

18. (Currently Amended) An information providing apparatus for displaying information on a screen, based on various information data provided through a plurality of information sources, comprising:

a first receiver to obtain first index information from a first information source of the plurality of information sources, wherein the first index information includes representative information indicating scene changes in the information data provided through the first information source;

a second receiver to obtain second index information from a second information source of the plurality of information sources;

a display to display a categorized menu on the screen based on the obtained first and second index information; and

a third receiver to obtain necessary information from the first or second information source, in response to selection operation on the menu screen, and to display information based on the necessary information,

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a recording device to record a history of programs watched and heard by a user, and controlling the display of information such that a favorite channel of the user is displayed to be selectable a priori in accordance with the history,

wherein the menu screen is arranged to display the information in a plurality of dimensions and levels such that a substantial portion of the necessary information can be seen and navigated on a minimum number of screens to enable relatively easy programming decisions and selections, and

wherein said plurality of dimensions and levels in the display are accessed as a function of the status of an operation key for displaying a program guide or search screen upon differing said plurality of dimensions and levels,

wherein the representative information indicating scene changes is captured and output to the first information source for recordal, and

wherein the representative information is recorded at the first information source prior to obtaining the first index information.

19. (Currently Amended) ~~A~~ The apparatus according to claim 18,

wherein the first index information includes a plurality of still images indicating scene changes in the information data provided through the first information source, and

wherein said third receiver includes:

a second display to display the plurality of still images in a temporal sequence so that relationships among the plurality of still images can be view in a time series.

20. (Currently Amended) ~~A~~ The apparatus according to claim 19, wherein

said second display includes:

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an arrangement device to arrange the plurality of still images in a spiral layout, where the plurality of still images is arranged in increasingly smaller sizes toward the center of the spiral layout.

21. (Currently Amended) ~~An~~ The apparatus according to claim 20, further comprising:
a controller to control ~~and move~~ the plurality of still images in the spiral layout, such that as more temporally current still images come into view on the outermost arm of the spiral layout, temporally older still images move spirally inward toward the center of the spiral layout.